



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID P. LITTELL  
COMMISSIONER

Maine Department of Corrections  
d/b/a Long Creek Youth  
Development Center  
Cumberland County  
South Portland, Maine  
A-321-71-M-M (SM)

Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #1

After review of the air emissions license minor revision application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

## I. REGISTRATION

### A. Introduction

Long Creek Youth Development Center of South Portland, Maine (owned by Maine Department of Corrections) has requested a minor revision to the facility's air emission license in order to redefine the term "emergency" as it pertains to the operation of the three back up diesel generators. The Long Creek Youth Development Center has requested the definition clarification to be able to participate in the ISO-New England Demand Response Program.

The current Air Emission License, A-321-71-L-R (issued August 24, 2009), permits the operation of emission sources associated with the juvenile treatment and rehabilitation facility.

### B. Emission Equipment

The following equipment is addressed in this air emission license minor revision:

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04679-2094  
(207) 764-0477 FAX: (207) 760-3143

**Generation Equipment**

<u>Equipment</u>	<u>Input Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manufacture</u>	<u>Stack #</u>
Generator 1 Purinton Hall	1.12	8	Diesel, 0.05% S	1979	1
Generator 2 LCY Development Ctr	8.03	58.8	Diesel, 0.05% S	2000	3
Generator 3 LCY Development Ctr	8.03	58.8	Diesel, 0.05% S	2000	4

C. Application Classification

This amendment will not increase licensed emissions. The generators will continue to be limited to 500 hours/year each (however, a portion of that annual limit may be used for the ISO-New England's Demand Response Program). Therefore, this modification is determined to be a minor revision and has been processed as such.

**II. BEST PRACTICAL TREATMENT (BPT)**

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Back-up Generators: OP-4 Program

Long Creek Youth Development Center's current air emission license (A-321-71-L-R, Condition 20(C)) specifically prohibits the facility from running the three

back-up generators for purposes other than for sudden and reasonably unforeseeable events beyond the control of the source and for short periods to exercise the unit and to keep it in operating order. The generators were restricted from providing prime power when reliable offsite power was available. This is how the term “emergency” has traditionally been applied.

Due to the potential for tight electricity supplies, ISO-New England has taken several precautionary steps to ensure the reliability of the region-wide bulk power system. One of those steps is the implementation of the Demand Response Program. This program offers financial incentives to customers, such as Long Creek Youth Development Center to reduce electricity demand during peak periods. This program can significantly improve the reliability of the region-wide bulk power system and possibly allow ISO-New England to avoid drastic measures, such as brown outs.

In order for Long Creek Youth Development Center to participate in the Demand Response Program, the facility needs to start the generators and run them prior to, or in lieu of, loss of off-site power. Long Creek Youth Development Center will only operate in this manner if there is a documented request from ISO New England under the emergency OP-4 procedures. ISO New England’s OP-4 is a procedure which establishes criteria and guidelines for actions during capacity deficiencies. OP-4 is implemented when there is determined to be a serious threat to the integrity of the bulk power system. Therefore, the Department has agreed to redefine the term “emergency” as it applies to Long Creek Youth Development Center’s generators to include ISO New England OP-4 emergencies.

Therefore “Emergency Generator”, as it applies to Long Creek Youth Development Center, is defined as any stationary internal combustion engine whose operation is limited to emergency situations, required testing and maintenance, and ISO New England OP-4 emergencies. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood.

Additionally, Long Creek Youth Development Center shall only be permitted to operate their generators in response to an OP-4 emergency for a total of no more than 50 hours each per calendar year.

C. Annual Emissions

Long Creek Youth Development Center shall continue to be restricted to the following annual emissions on a 12 month rolling total basis, calculated with the boilers operating 8760 hours/year and each generator operating 500 hours/yr:

**Total Licensed Annual Emission for the Facility**  
**Tons/year**  
(used to calculate the annual license fee)

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boilers 1, 2, and 3	2.4	2.4	0.02	3.5	3.0	0.2
Generator 1	0.09	0.09	0.01	1.2	0.3	0.1
Generator 2	0.2	0.2	0.1	6.4	1.7	0.2
Generator 3	0.2	0.2	0.1	6.4	1.7	0.2

<b>Total TPY</b>	<b>2.9</b>	<b>2.9</b>	<b>0.2</b>	<b>17.5</b>	<b>6.7</b>	<b>0.7</b>
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### III. AMBIENT AIR QUALITY ANALYSIS

Based on the modeling and monitoring thresholds in 06-096 CMR 115 and the total facility licensed emissions, Long Creek Youth Development Center is below the emissions level required for modeling and monitoring.

### ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-321-71-M-M subject to the conditions found in Air Emission License A-321-71-L-R and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**The following shall replace condition (20) in air emission license A-321-71-L-R:**

**(20) Back-Up Generators**

- A. The back-up generators shall fire diesel fuel with a maximum sulfur content of 0.05%. Long Creek Youth Development Center shall maintain fuel records documenting compliance with the diesel sulfur content limit (i.e. records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel). [06-096 CMR 115, BPT]
- B. Operational Restrictions
  1. The diesel-fired back-up generators shall each be limited to 500 hours per year, based on a 12 month rolling total. An hour meter shall be operated and maintained on each unit. Records shall be kept to document compliance with the hours of operation limit and a log documenting the dates, times, and reason of operation for the back-up generators shall be maintained. [06-096 CMR 115, BPT]
  2. Long Creek Youth Development Center shall only operate the emergency generators for periods of maintenance and readiness testing, emergencies when off-site power is unavailable, and ISO New England OP-4 emergencies. [06-096 CMR 115, BPT]
  3. Long Creek Youth Development Center shall keep records for OP-4 emergencies which include the date, which generators were operated, start time and stop time for each generator, and documentation that Long Creek Youth Development Center was contacted by ISO New England and asked to reduce consumption as part of an OP-4 event. [06-096 CMR 115, BPT]
  4. Long Creek Youth Development Center shall not operate the emergency generators for more than 50 hours each per calendar year in response to an OP-4 emergency. [06-096 CMR 115, BPT]

C. Emissions from the generators shall not exceed the following: [06-096 CMR 115, BPT]

<u>Unit</u>	<u>PM</u>	<u>PM<sub>10</sub></u>	<u>SO<sub>2</sub></u>	<u>NO<sub>x</sub></u>	<u>CO</u>	<u>VOC</u>
Generator 1 (1.12 MMBtu/hr)	0.3 lb/hr	0.3 lb/hr	0.06 lb/hr	4.9 lb/hr	1.1 lb/hr	0.4 lb/hr
Generator 2 (8.03 MMBtu/hr)	0.12 MMBtu/hr 1.0 lb/hr	1.0 lb/hr	0.4 lb/hr	25.7 lb/hr	6.8 lb/hr	0.7 lb/hr
Generator 3 (8.03 MMBtu/hr)	0.12 MMBtu/hr 1.0 lb/hr	1.0 lb/hr	0.4 lb/hr	25.7 lb/hr	6.8 lb/hr	0.7 lb/hr

D. Visible emissions from each back-up generator shall not exceed 30% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 15<sup>th</sup> DAY OF October, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brophy  
DAVID P. LITTELL, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-321-71-L-R.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 17, 2009

Date of application acceptance: September 23, 2009

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.

